

# Farming and wildlife

Series No. 6



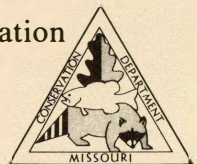
## *Wetlands*



Missouri Department of Conservation



**University  
Extension**  
UNIVERSITY OF MISSOURI  
COLUMBIA



U.S.D.A. Soil Conservation Service



# Farming and wetlands

**W**hat is a wetland?

Wetlands come in all shapes and sizes and may appear completely different from one another. Some are readily apparent while others are more difficult to identify. All have a few characteristics in common. Each has similar soils, called hydric soils because they formed under

the influence of water. Wetlands typically grow specific types of hydrophytic or water loving vegetation. They also are flooded or become saturated with water part of the year.

Wetlands are formed by and are maintained by water. Seasonal fluctuations of water

influence the vegetation type and functions that the wetland will provide. Wetlands provide many different functions, some of which are very apparent while others are more subtle and difficult to quantify. These wetland functions impact society as well as individual landowners.

## *Different wetland types*



Depressional areas in fields often hold water through wet periods and slowly discharge it back into the watershed or into ground water supplies.



In the past, natural flood plains contained many backwater sections made up of old meander cutoffs, backwater sloughs and overflow channels. These provide many important functions for the watershed, fish spawning areas and wildlife.





Historically, wetlands were often dominated by a diversity of herbaceous plants. This variety of annual, perennial and woody plants provide food and cover for wildlife, as well as erosion control.



Forested wetlands, once found throughout Missouri, were predominant in many southeast Missouri counties referred to as the Bootheel. This type of wetland has suffered the most loss along with many species of fish and wildlife that depend on forested wetlands.



Some wetlands are highly engineered, intensively managed areas for wildlife habitat and recreation. Wetland areas like this are very important due to the extent of wetland losses and the demand for wetland resources.



## Wetland losses

Approximately 90 percent of Missouri's wetlands have been lost due to the conversion of these rich ecosystems into different land uses. With the loss of these wetlands, the values to society and to wildlife were also lost.

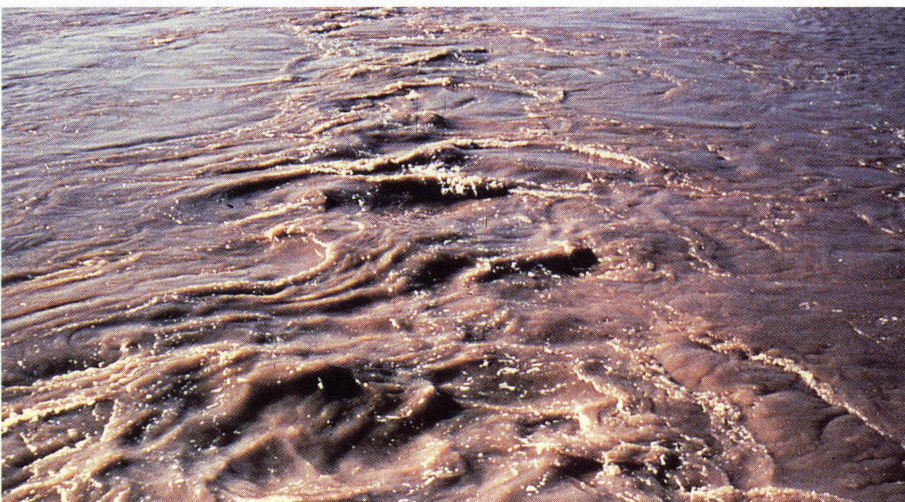


Above: Wetlands are one of the most productive ecosystems for producing biomass on earth. However, their natural fertility has encouraged conversion to agriculture uses.

Left: Many wetlands in Missouri are located within the flood plain of rivers and streams. Extensive conversion of these wetlands to urbanization and industrial development has occurred.

## Wetland values and functions

### Improve water quality



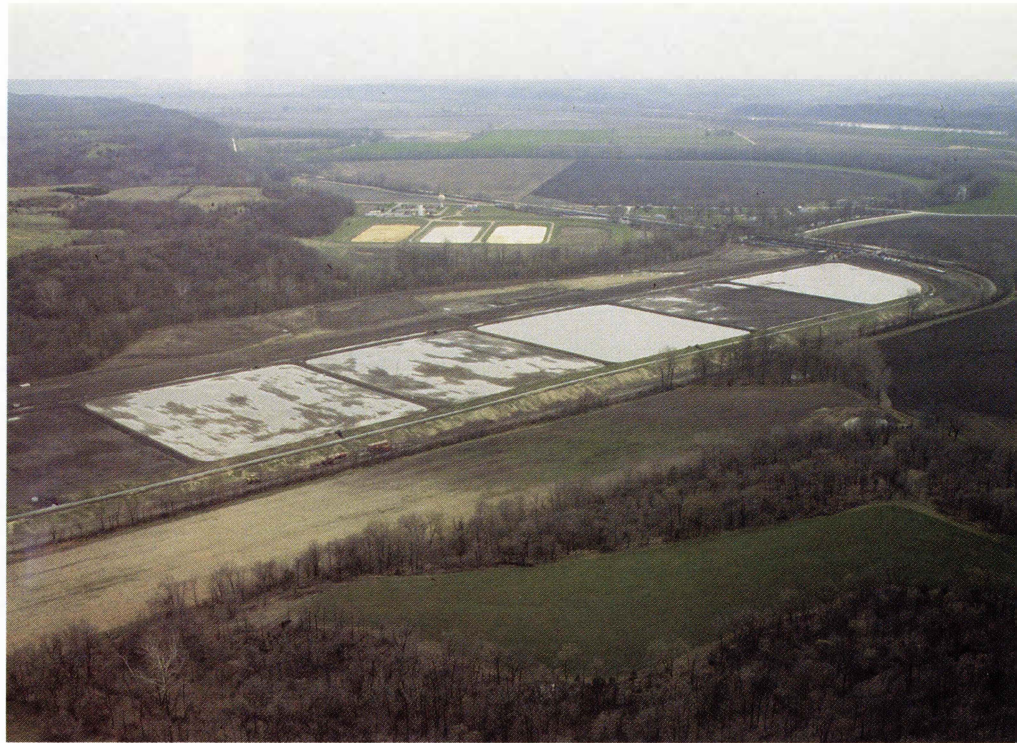
Wetlands improve water quality by acting as biological filters that trap sediments and pollutants from surface waters. Nutrients and toxicants carried by sediments are removed by chemical breakdown and are taken up by wetland plants.

The removal of pollutants also helps maintain high quality drinking water for everyone.





Wetlands can be utilized on your farm to treat wastewater from feedlots and dairies. Vegetated wetlands retain nutrients, transform inorganic material into organic forms and trap nitrogen-rich particles to be released later in a gaseous form.



Municipalities are utilizing wetlands to treat waste water. The removal of excess nutrients provides high quality water for use on the farm and for downstream water users.

## *Flood control*



Wetlands in flood plains provide flood storage and streambank stabilization.





Wetlands located within a watershed act as natural sponges by retaining surface water from runoff, flood water, surface flows and precipitation, then slowly releasing this water back into the watershed. By lowering peak flows, flood related damage can be minimized.



Crops may be lost during wet years in farmed wetlands, however these same low areas provide flood storage to protect downstream areas from potentially devastating floods. Loss of crops due to flooding can be devastating and is sometimes the result of wetland conversions that have occurred upstream.



The loss of wetlands that provide flood storage within the watershed and along river systems has resulted in severe downstream flooding.



## Ground water recharge



Wetlands with porous underlying substrates function to recharge ground water supplies. Water in underground aquifers and sediment layers provide moisture for crop production as well as drinking water supplies for society.

## Agricultural production



Above: Wetland areas within crop fields can provide moisture for crop production by minimizing moisture loss during dry periods.

Top right: Wetlands provide water storage facilities so farming efforts can be concentrated in more dependable areas. This not only reduces potential loss of profit but also provides other wetland benefits.

Middle right: Pastures during drought years may dry up and provide little livestock forage.

Bottom right: Wetlands can retain moisture for forage crops during drought. Many grasses that thrive in wetlands provide excellent grazing and haying opportunities.





Above: Forested wetlands provide millions of board feet of lumber each year.

Right: Flooding timber stands during the dormant season can be beneficial for timber production by reducing understory and providing ground moisture.



Rice production is dependent on wetlands and water management. Rice fields also provide wetland wildlife habitat and recreation.





Wetlands are biologically rich ecosystems, with varied plants and animals. Many species of wildlife that were dependent on wetlands have suffered from loss of these habitat types.



Wetlands are almost synonymous with waterfowl. Missouri wetlands provide critical habitat types for migratory waterfowl.



Wetlands along streams and rivers provide fish spawning and rearing areas. This habitat is crucial for some species of native Missouri fish.

## *Recreation and education*



Wetlands and waterfowl hunting provide many hours of enjoyment and produce thousands of dollars in revenue to rural communities.



Wetlands provide natural areas for aesthetics, education and research. Located near towns and schools, wetlands can provide excellent outdoor classrooms to study aquatic life, wetland processes, water quality, plant succession and wildlife.



## *Wetland protection and restoration*



Wetlands can be left in agricultural fields to provide wetland benefits and minimize profit loss in marginal areas. These wetlands also may provide opportunities for irrigation.



Above: Forested wetlands can be enhanced by proper planning and management. Proper water level management is critical to maintaining timber production and realizing the benefits of the wetland processes.

Left: Wetlands managed properly can provide excellent forage even during the driest years.





Some native grasses thrive in wetlands and can provide a perennial silage crop, grazing or hay production.



Degraded wetlands can be restored to provide many wetland values.



Crop fields can be allowed to reflood through the use of water control structures on drain tubes or temporary plugs in drainage ditches. These fields can provide important wildlife habitat and ground cover for erosion control, control weed invasion and improve ground moisture conditions.



Wetlands add many aesthetic benefits to the farm landscape. These areas can be used for water, recreation or just to relax and enjoy nature.



Educational, technical and financial assistance is available for Missouri landowners to protect, restore and enhance wetlands. For information contact your local Soil Conservation Service, Missouri Department of Conservation, U. S. Fish and Wildlife Service or University Extension office.





The Missouri Department of Conservation uses Federal financial assistance in Sport Fish and/or Wildlife Restoration. Because the state utilizes these federal funds, it must comply with federal anti-discrimination law. Under Title VI of the 1964 Civil Rights Act and Section 504 of the Rehabilitation Act of 1973, the federal government prohibits discrimination on the basis of race, color, national origin, disability, age, or sex. If you believe that you have been discriminated against in any program, activity or facility as described above, or if you desire further information please write to:

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